

**AMBIENT AIR AND METEOROLOGICAL MONITORING  
FOR  
TRUE GEOTHERMAL ENERGY COMPANY  
KILAUEA MIDDLE EAST RIFT ZONE, ISLAND OF HAWAII  
AUGUST 1990 DATA REPORT**

Submitted to:  
**Ms. Renee Taylor**  
**True Geothermal Energy Company**

Prepared by:  
**MEASUREMENT TECHNOLOGIES**  
**September 1990**

CN-137

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## 1.0 Introduction

Measurement Technologies has been contracted by True Geothermal Energy Company to conduct an air quality and meteorological monitoring program to support incremental exploration and development of the Kilauea Middle East Rift Zone Geothermal Resources Subzone (GRS), Puna District, Island of Hawaii. The data gathered in the monitoring program is being used in support of the exploration and possible development of the geothermal resource.

The monitoring program consists of two (2) monitoring sites. The first site (Site 1) is located in the Kaohae Homesteads area and the second site (Site 2) is located at the geothermal drilling and staging area D-1. The monitored parameters for each site are contained in Table 1-1. The sites are being operated consistent with the guidelines and requirements as outlined in the following documents:

- o "Ambient Monitoring Guidelines for Prevention of Significant Deterioration (PSD)," U.S. EPA-450/4-80-012, November 1980.
- o "Quality Assurance Handbook for Air Pollution Measurement Systems: Volume IV. Meteorological Measurements," U.S. EPA-600/4-82-060, February 1983.
- o "Quality Assurance Handbook for Air Pollution Measurement Systems, Volume II," Ambient Air Specific Methods, U.S. EPA-600/4-77-027a, May 1977.

As part of the monitoring program, Measurement will submit monthly and quarterly reports to True Geothermal Energy Company. The reports will contain the monitoring data, results of the quarterly quality assurance audits and results of quality control activities such as SO<sub>2</sub> and H<sub>2</sub>S gas analyzer precision checks, level 1 and 2 checks and multipoint calibration results.

TABLE 1-1 Monitored Parameters

PARAMETER	SITE 1	SITE 2 (MET)
HYDROGEN SULFIDE (H <sub>2</sub> S)	X	8 PLS
SULFUR DIOXIDE (SO <sub>2</sub> )	X	X
WIND DIRECTION	X	X
WIND SPEED	X	X
VERTICAL WINDS		X
SIGMA THETA	X	X
SIGMA W		X
TEMPERATURE	X	
PRECIPITATION	X	
RAIN WATER (ANIONS & DISSOLVED METALS)	3 PLS	
METALS (ATMOSPHERIC PARTICULATE	X	
TOTAL SUSPENDED PARTICULATE (TSP)	X	
INHALEABLE PARTICULATES (PM-10)	X	
RADON		X

Section 2.0 of this report contains a operations narrative of significant events and activities that occurred during the month of August. Section 3.0 of this report contains the data collected during the month with graphical presentations and data capture summaries. The data is presented by site numbers and may also be referred to by name. Site 1 and 2 names are Air Quality/Met and Met Site, respectively.



## 2.0 Operations Summary

This section discusses the operations of the two monitoring sites and any significant events that may affect data quality. A downtime summary is also provided.

### 2.1 Monthly Operations Summary

Site 1 and 2 operations were routine for the month of August. Results of the radon samples exposed for the August period indicated radon levels below the detectable limit.

The rain water samples collected during August show insignificant levels of compounds and metals. The results of the analysis are contained in Section 3.0, Table 3-8 of this report.

The filter analyses for metals and particulate in August show insignificant concentrations and loadings for the compounds of interest in the program. The results are contained in Section 3.0, Tables 3-9 thru 3-14.

The continuous H<sub>2</sub>S analyzer at Site 1 detected no levels of H<sub>2</sub>S during August. In addition, the H<sub>2</sub>S dosimeter badges located at the Drill site 2 show no detectable concentrations of H<sub>2</sub>S during August. Low levels of SO<sub>2</sub> data were measured on August 28, 1990 for the hours of 1600 thru 1800. The highest hourly value was 27 parts per billion for the 1700 hour.

It might be noted that wind direction data showing zero's as a value, may correlate with a wind speed of zero. The wind direction is a vector average and if the wind speed is zero the wind direction is not calculated. The wind's are considered calm in these conditions and pollutants are in a stagnation condition, (not being transported).

## 2.2 Downtime Summary

This section presents the down time summary by site. Down time is considered any time an analyzer or sensor is not collecting valid data. Down time includes calibration time, data lost due to data validation criteria such as insufficient data samples, sensors or analyzers operating outside of allowable limits, etc. Calibration and audit time and time lost due to maintenance and malfunctions is also considered down time.

Data capture at Site 1 was excellent in August, with all parameters exceeding 99 percent data capture. Site 2 also had excellent data capture in August with all parameters having 100 percent data capture for the sixth straight month.

## 2.3 Major Activities

No major activities were noted during the month of August.

### 3.0 Data Summary

Section 3.0 contains monthly summary reports and statistic tables for all of the major monitored parameters. In addition, graphical wind rose plots, rain water analyses results, total suspended (TSP) and inhaleable (PM-10) particulate loading and metals analyses are also contained in this section. The data and associated graphical presentations are presented by site. Each sites data is organized and presented as follows:

- o Monthly Summary Report containing the hourly values for each day of the month. Dashes contained in the place of any data signifies that the data falls into a down time category previously discussed in Section 2.0. An asterisk sign in the wind sigma theta signifies calm wind conditions.
- o A graphical wind rose presentation will immediately follow the Monthly Summary Report. The wind rose displays a graphical presentation of the wind speed and direction at each site.
- o Summary Statistic Tables containing the highest and second highest measured values, lowest value, arithmetic mean and standard deviation, data recovery rates and percentile breakdowns of measured values.
- o TSP and PM-10 particulate data showing loading of each filter along with the elemental analyses of each metals filter (Site 1 only).
- o Rain water analyses results showing each sample collected and the results of the metals elemental and anion analyses (Site 1 only).

3.1

Air Quality/Meteorological Monitoring Data Site 1

MONTHLY SUMMARY REPORT

TRUE GEOTHERMAL

LOCATION: SITE 1

WD

(DEG )

DATA FOR: AUG 1990

HR-END DAY	HOURS (HST)																							
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	0	0	0	0	0	0	0	326	341	338	338	347	35	103	112	31	354	345	339	324	325	322	0	0
2	0	0	0	0	0	0	0	0	336	346	349	347	352	353	356	349	351	349	349	349	348	343	335	321
3	0	0	0	0	0	0	0	0	331	354	12	352	18	13	350	348	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	----	0	0	351	348	359	1	360	350	352	348	347	343	334	331	325	325
5	324	0	0	0	0	0	0	0	0	330	341	350	352	358	352	350	353	350	349	348	344	341	339	341
6	0	0	0	0	0	0	0	0	335	344	----	----	351	350	12	352	348	348	349	337	337	334	335	346
7	340	340	0	0	0	0	0	0	0	358	350	348	352	356	349	351	350	348	348	346	346	333	338	327
8	0	0	0	0	0	0	0	0	353	356	355	349	359	352	356	58	358	349	346	346	337	335	333	355
9	270	303	306	282	296	309	281	321	327	343	6	4	356	0	9	1	349	353	342	333	343	336	333	329
10	317	302	296	0	0	0	306	328	344	349	353	353	2	349	351	350	350	349	347	345	327	314	316	323
11	0	0	0	0	0	0	0	322	330	343	346	344	353	352	352	349	349	352	348	334	329	0	0	0
12	0	0	0	0	0	0	0	0	319	331	336	327	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	353	357	348	351	351	359	351	351	348	347	334	317	314	313	314
14	320	315	320	329	325	0	0	336	341	348	356	359	91	60	50	52	355	346	348	0	327	337	339	344
15	22	45	346	332	344	354	359	356	348	359	352	357	348	352	353	349	353	358	344	326	319	310	315	314
16	317	326	337	326	335	334	327	0	351	355	15	5	37	4	7	77	0	90	16	0	0	0	0	0
17	0	331	335	336	325	0	0	340	347	348	345	348	348	351	350	349	349	349	349	346	334	328	323	0
18	0	0	0	0	0	0	0	0	336	349	348	348	355	349	351	350	350	351	346	327	329	324	326	317
19	0	0	0	0	0	0	0	0	317	333	357	91	100	96	105	99	46	35	10	19	343	56	0	306
20	314	311	299	292	279	280	285	328	339	346	353	355	357	355	1	353	349	347	347	348	336	333	332	324
21	330	0	0	0	0	0	0	333	342	349	353	351	351	357	351	351	356	356	347	342	344	340	331	332
22	325	0	0	0	0	0	0	319	325	337	334	349	346	348	348	350	358	346	17	80	80	73	169	135
23	310	319	297	305	309	0	323	334	344	348	342	349	354	351	355	359	348	349	344	327	311	316	305	309
24	318	326	0	0	0	0	0	0	341	344	0	342	346	9	18	16	60	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	351	350	349	349	347	344	340	341	338	340	342
26	0	0	0	0	0	0	0	0	336	340	347	348	349	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	341	345	344	343	345	336	331	318	313	317	317	314
28	323	317	320	322	320	324	324	329	335	340	344	348	353	348	348	348	350	345	350	334	332	321	322	320
29	318	319	319	332	0	0	315	326	339	339	336	339	347	350	345	342	345	331	325	324	322	330	327	328
30	326	322	324	323	325	324	323	334	339	346	344	351	346	351	348	348	348	346	346	329	317	317	0	0
31	0	0	0	0	0	0	0	323	334	337	349	16	350	359	348	356	357	359	0	0	0	0	0	0

Table 3-1. Wind Direction Monthly Summary Site 1



MONTHLY SUMMARY REPORT

LOCATION: SITE 1		TRUE GEOTHERMAL																		(MPH )										DATA FOR: AUG 1990									
		WS																																					
		HOURS (HST)																																					
HR-END	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24															
DAY																																							
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	3.1	4.0	2.2	2.5	1.2	1.4	1.6	1.3	2.0	2.5	4.2	5.0	3.8	1.1	0.0	0.0															
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.1	4.4	4.6	4.7	4.1	4.6	3.4	3.9	4.2	4.0	4.4	4.7	4.5	3.6	3.5	0.7															
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	2.2	1.2	2.3	0.9	1.2	3.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0															
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	----	0.0	0.0	2.7	4.7	3.2	3.5	2.8	4.0	4.6	5.4	4.5	3.8	3.6	3.9	3.6	4.2														
5	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	3.5	1.7	2.5	3.1	4.1	4.8	5.3	4.7	5.3	4.6	4.5	5.0	4.3	1.2														
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	5.2	----	----	5.9	4.6	1.4	2.7	4.4	6.0	5.8	6.8	6.9	7.0	6.6	6.4															
7	6.5	6.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	3.5	5.1	6.1	4.3	5.1	5.3	3.7	2.8	3.5	3.6	3.0	4.2	4.7	3.1															
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.6	2.8	3.1	3.1	4.8	2.4	0.5	1.0	0.7	1.6	2.0	1.1	0.3	0.2	0.0															
9	0.0	0.3	0.4	0.2	0.3	0.6	0.1	1.7	1.5	3.2	1.9	2.3	2.4	3.3	2.5	2.8	3.7	2.6	1.7	0.3	1.8	0.6	1.1	0.5															
10	0.1	0.4	0.2	0.0	0.0	0.0	0.2	2.8	4.6	4.3	2.2	3.4	3.2	3.6	4.4	3.2	3.0	3.5	3.0	1.3	0.2	0.4	2.5	0.4															
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	3.9	5.0	5.8	5.7	4.5	5.3	5.6	5.8	6.5	6.2	4.2	4.1	3.1	0.0	0.0	0.0															
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	3.2	4.1	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0															
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	1.9	2.0	3.2	3.3	2.6	2.6	3.3	2.7	1.8	1.7	2.1	1.7	1.9	2.9															
14	3.9	3.1	4.8	4.7	5.7	0.0	0.0	3.4	6.2	5.4	3.9	2.1	0.8	1.0	1.0	0.7	1.9	3.8	1.3	0.2	0.8	2.0	2.2	3.2															
15	0.3	0.0	1.4	1.6	1.9	1.3	0.6	1.5	2.2	0.9	1.0	2.0	3.6	3.1	2.8	3.3	2.7	2.0	2.1	2.5	2.3	0.4	1.5	1.7															
16	1.9	2.3	2.6	3.8	4.1	4.0	0.8	0.0	2.0	1.0	0.3	0.3	0.2	0.2	0.3	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0															
17	0.0	3.0	4.7	4.5	4.3	0.0	0.0	0.8	4.1	4.8	6.3	5.2	5.7	4.8	4.9	5.8	5.1	5.8	5.1	4.3	4.0	2.9	2.1	0.0															
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.6	5.2	5.5	5.6	4.9	4.5	5.2	4.7	5.5	5.5	4.6	4.4	4.8	4.5	4.6	3.0															
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	2.7	0.1	0.4	1.6	1.5	1.8	1.5	1.1	0.7	0.6	0.5	0.2	0.0	0.0	0.3															
20	0.6	0.9	0.2	0.1	0.0	0.1	0.1	1.6	4.2	4.2	3.3	3.7	3.2	2.9	2.6	5.0	4.7	5.0	5.5	4.8	4.9	5.8	5.3	4.9															
21	2.1	0.0	0.0	0.0	0.0	0.0	0.0	2.8	5.0	5.0	3.7	4.2	4.1	3.5	3.9	2.8	2.7	2.9	3.5	2.0	1.8	2.2	0.6	2.3															
22	2.4	0.0	0.0	0.0	0.0	0.0	0.0	4.2	3.1	4.2	6.0	4.3	4.2	3.9	3.5	2.5	1.6	1.8	1.1	1.0	0.7	0.1	0.0	0.1															
23	0.1	1.1	0.1	0.7	0.8	0.0	0.4	2.5	4.0	4.7	5.7	3.7	3.8	4.9	4.1	2.2	3.7	2.7	2.0	2.7	1.0	0.8	0.7	0.2															
24	0.5	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.1	3.2	0.0	0.1	3.7	2.5	1.5	1.6	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0															
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	6.1	6.8	7.1	7.9	7.0	7.0	7.4	7.3	7.6	0.9															
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	8.2	8.1	8.1	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0															
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.9	6.8	6.5	5.3	5.0	6.3	3.6	2.1	1.0	1.6	1.9	0.1															
28	0.3	0.7	2.4	1.6	1.0	1.3	2.3	5.2	6.5	6.4	5.9	4.7	3.8	4.2	4.8	5.9	3.6	3.0	1.4	0.3	0.0	0.6	0.2	0.1															
29	1.1	0.8	0.5	0.0	0.0	0.0	0.1	0.6	4.0	4.0	2.8	5.1	4.8	5.6	5.1	6.8	6.0	6.9	6.1	3.1	1.3	5.0	3.9	2.6															
30	2.1	2.4	2.4	1.2	2.1	3.2	2.5	5.0	7.0	6.5	6.5	5.9	6.4	6.0	6.4	6.1	5.7	3.9	0.5	0.2	0.2	0.5	0.0	0.0															
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.7	0.6	1.2	0.7	1.4	1.4	1.0	0.7	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0															

Table 3-2. Wind Speed Monthly Summary Site 1

## MONTHLY SUMMARY REPORT

## TRUE GEOTHERMAL

LOCATION: SITE 1

Sig01

(deg )

DATA FOR: AUG 1990

HR-END DAY	HOURS (HST)																							
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	61.3	61.9	43.5	41.7	33.6	32.5	43.9	27.3	24.1	45.1	64.7	60.4	77.5	75.9	73.1	76.5	63.5	49.3	22.4	14.9	14.6	26.3	35.1	35.3
2	34.8	38.2	42.6	45.1	42.2	40.4	39.3	35.0	17.4	36.4	37.2	35.1	52.8	45.0	58.1	52.1	44.9	43.4	34.0	29.8	26.3	20.8	17.1	35.9
3	31.1	40.5	49.3	46.8	33.4	55.8	54.9	52.8	33.5	59.3	71.8	59.7	75.6	77.8	50.5	41.8	33.9	26.7	30.2	31.5	36.8	33.5	32.0	32.4
4	31.7	32.2	33.6	34.8	36.2	38.9	33.9	----	29.3	32.2	37.9	43.0	57.2	55.8	60.4	50.0	40.5	30.9	24.6	19.9	16.8	15.5	15.7	16.0
5	17.6	53.8	46.1	58.1	56.2	58.1	42.9	67.1	33.6	27.3	29.7	47.1	56.4	55.6	49.3	44.1	41.0	36.7	25.1	23.6	19.9	20.1	18.0	24.8
6	35.5	34.6	42.7	56.7	63.5	60.2	81.9	51.8	33.9	28.2	----	----	43.8	51.0	71.3	56.4	48.4	25.9	27.5	17.5	17.7	16.6	17.6	23.1
7	20.4	19.6	29.5	29.2	43.9	54.3	48.1	30.7	34.0	35.2	40.5	42.2	37.8	52.5	42.1	40.6	38.0	38.6	29.5	35.0	26.7	17.4	22.5	22.7
8	32.8	35.8	38.6	56.0	84.4	64.3	39.0	53.3	57.0	60.9	60.3	60.4	56.1	45.7	63.7	74.2	54.5	39.3	39.6	42.6	22.1	23.5	21.5	86.3
9	88.9	87.9	72.0	47.7	43.9	57.5	36.8	28.1	30.9	34.8	68.4	72.6	70.9	61.8	65.9	60.5	47.2	48.2	31.8	23.1	22.9	34.2	18.7	36.1
10	27.1	34.6	29.3	105.9	95.5	96.4	80.1	15.8	24.2	38.8	48.8	49.8	57.0	44.6	47.8	55.4	51.8	43.7	38.4	24.7	31.1	35.0	17.9	36.8
11	44.5	37.8	51.6	58.6	62.5	83.8	84.1	43.0	17.5	22.9	31.8	37.2	50.3	42.3	41.9	38.6	35.7	32.6	30.2	18.5	21.4	43.4	38.9	51.7
12	69.3	68.0	71.7	73.7	66.0	65.1	70.3	50.6	39.0	24.5	18.3	25.2	36.2	53.2	37.2	38.5	37.3	64.4	52.8	38.3	81.3	105.5	116.0	97.6
13	108.8	77.8	70.3	56.4	73.4	112.5	83.8	38.3	37.5	44.6	55.8	61.9	55.0	52.7	59.8	60.3	47.1	44.0	31.9	16.5	18.2	17.4	16.9	17.5
14	14.7	18.8	15.7	14.8	15.3	39.0	40.7	23.7	21.4	31.2	46.3	59.2	84.9	79.6	78.1	83.0	65.9	33.4	36.8	38.2	16.5	22.6	25.1	34.4
15	64.1	75.1	71.8	56.9	43.2	38.4	52.8	52.0	57.1	52.9	55.8	55.9	44.5	53.4	62.9	52.9	50.1	55.1	34.1	28.4	20.4	35.6	37.1	20.9
16	20.8	18.1	23.7	19.1	17.4	17.9	27.4	29.3	30.3	36.3	58.1	61.8	80.5	52.1	50.5	68.7	73.6	72.6	81.4	39.6	38.0	32.2	32.2	29.5
17	35.0	18.3	19.3	17.5	16.3	36.7	41.2	33.0	23.2	26.0	28.6	37.2	33.9	47.3	46.6	35.3	39.9	34.7	29.6	24.8	17.7	19.2	35.0	51.4
18	49.6	50.0	46.6	44.9	48.3	49.5	50.9	42.2	19.4	33.1	43.7	41.7	44.1	48.2	43.2	45.6	38.4	32.8	21.2	15.4	16.6	15.2	14.7	26.5
19	57.1	66.9	68.6	69.5	77.9	85.7	91.5	81.1	30.3	26.4	88.7	85.0	70.4	68.1	62.9	71.5	82.5	81.9	71.8	55.3	41.8	61.3	63.8	18.8
20	19.0	19.9	25.3	27.6	69.1	31.5	34.7	24.0	22.0	28.2	55.3	55.1	60.2	63.1	66.2	42.1	39.9	34.5	24.6	23.7	17.9	15.2	15.9	16.5
21	24.7	43.8	41.5	46.5	48.8	52.2	48.5	24.2	22.7	34.1	56.7	47.3	47.3	59.7	50.4	60.8	58.2	52.5	32.8	32.5	29.8	19.6	16.4	19.0
22	17.6	53.6	59.4	63.1	55.3	71.0	52.6	20.1	28.4	25.1	21.2	41.2	40.6	41.6	51.6	62.2	59.9	47.8	66.2	80.5	76.2	101.6	83.5	75.4
23	71.0	50.6	51.0	55.4	41.7	70.2	48.8	19.8	30.3	33.1	29.7	50.4	53.4	44.0	51.0	61.3	34.6	53.3	27.1	17.7	22.5	27.3	29.1	48.3
24	46.6	50.3	69.2	68.5	64.6	48.2	45.4	36.1	27.3	46.8	36.7	59.9	49.3	60.2	78.9	80.2	85.2	89.4	71.8	45.4	32.3	28.6	35.3	29.2
25	31.4	31.9	32.9	32.2	43.4	42.7	41.6	36.4	37.9	29.7	27.6	35.5	35.7	35.6	39.9	33.3	29.1	23.2	18.5	19.8	19.6	19.9	19.0	27.3
26	29.3	31.3	35.1	31.4	30.6	34.6	30.4	29.8	27.5	20.8	24.0	27.0	32.6	35.3	39.1	30.9	40.1	45.6	34.1	27.8	28.4	30.6	32.0	34.7
27	39.7	38.0	40.2	40.4	39.9	41.2	40.7	35.9	33.6	31.5	30.4	34.5	27.1	26.8	26.3	23.5	22.0	18.0	14.2	20.5	23.1	20.7	20.2	30.6
28	16.5	18.6	17.4	15.8	15.8	16.3	16.4	15.3	17.7	21.5	28.6	32.3	39.0	36.1	29.8	24.3	26.9	23.0	20.5	24.9	30.8	17.2	17.0	33.9
29	18.0	18.3	15.9	45.6	51.4	60.4	48.1	16.1	19.2	20.7	24.0	19.6	29.1	28.9	23.4	21.6	20.5	17.0	15.7	15.8	14.6	15.7	16.4	16.0
30	15.9	16.3	15.0	16.0	16.1	15.5	13.3	16.9	20.3	24.3	26.5	30.1	31.2	32.4	33.3	30.2	27.1	21.4	19.4	23.6	24.2	32.4	63.8	80.1
31	106.7	82.9	94.2	106.6	120.3	118.6	116.8	47.0	25.6	39.7	51.1	62.1	56.2	53.1	56.9	53.1	46.8	34.5	29.8	67.1	116.2	97.6	97.6	97.6

Table 3-3. Sigma Theta Monthly Summary Site 1

MONTHLY SUMMARY REPORT

LOCATION: SITE 1		TRUE GEOTHERMAL																							DATA FOR: AUG 1990				
		TEMP																							(DEG F)				
		HOURS (HST)																											
HR-END	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
DAY																													
1	67.8	67.8	68.1	68.2	68.1	68.4	68.8	70.8	72.4	71.4	72.9	72.0	74.4	75.7	75.2	74.9	73.4	72.1	69.9	68.5	68.5	68.5	68.7	68.7					
2	68.5	68.5	68.0	67.9	68.1	68.2	68.1	69.4	71.7	73.0	73.9	75.7	77.9	77.2	76.6	75.5	74.7	72.8	71.5	70.7	69.8	69.2	69.0	68.9					
3	69.0	68.7	68.7	68.4	67.8	67.3	67.6	69.9	73.0	71.9	73.2	72.1	74.2	73.8	72.5	72.1	71.2	69.8	68.6	68.3	67.5	67.3	67.3	67.6					
4	67.5	67.3	67.1	66.9	66.7	66.3	69.6	----	72.9	74.1	75.4	76.8	78.3	77.7	78.2	77.3	75.4	73.7	71.1	69.8	69.4	69.3	69.0	69.1					
5	69.0	68.3	67.8	67.0	66.7	66.4	67.6	68.7	70.4	71.9	73.4	73.9	76.1	77.0	75.9	75.8	75.7	72.9	71.2	70.0	69.4	69.3	68.6	68.5					
6	67.9	67.6	66.9	66.4	66.1	66.3	65.6	67.1	70.7	73.1	----	----	77.6	78.9	75.9	76.4	76.6	74.2	71.5	70.5	70.3	69.8	69.6	70.0					
7	69.8	69.7	68.7	68.4	68.1	68.1	69.1	71.2	72.3	73.7	75.6	77.5	77.1	78.2	77.7	77.2	74.5	73.8	71.7	70.5	70.0	69.6	69.6	69.4					
8	69.2	69.1	68.9	68.8	69.0	68.5	68.8	70.6	73.0	75.3	76.8	77.4	76.8	76.9	75.0	72.1	72.5	72.1	70.8	69.6	69.2	68.8	68.5	67.6					
9	67.0	67.8	67.8	67.5	66.9	66.3	67.1	70.1	72.9	74.6	77.4	77.9	78.6	78.5	78.4	76.6	74.7	72.8	70.3	69.2	69.1	68.7	68.5	68.0					
10	67.4	66.9	66.7	66.0	65.4	64.9	68.5	73.2	74.0	72.4	70.5	76.1	75.7	75.0	75.5	74.6	74.3	72.6	71.0	68.8	67.5	67.0	67.1	67.3					
11	67.1	66.9	66.6	65.8	64.9	64.6	65.3	70.2	72.1	73.7	74.9	75.5	76.3	76.5	76.7	76.6	76.1	74.5	69.4	68.5	67.9	67.6	67.7	66.6					
12	66.8	66.7	65.9	65.9	66.5	66.7	66.8	67.2	69.1	71.9	72.0	73.6	72.1	71.1	71.0	71.0	70.8	70.3	69.8	69.7	69.8	70.3	71.3	71.0					
13	70.0	70.0	69.7	69.4	68.5	67.6	68.5	73.2	74.8	76.3	78.1	80.2	80.2	80.4	80.1	80.0	78.9	76.6	72.9	71.0	70.1	69.4	69.0	68.5					
14	68.6	69.2	69.9	69.8	69.1	68.8	69.3	73.7	75.8	78.0	78.2	74.9	76.6	78.7	79.8	79.5	78.0	75.9	73.2	71.0	71.1	70.6	70.3	70.6					
15	70.3	70.0	69.6	69.4	69.8	70.0	70.3	72.6	73.6	74.7	77.2	78.1	78.2	79.1	79.2	77.7	75.7	75.3	71.3	69.7	69.1	68.9	69.0	69.0					
16	69.2	69.2	69.3	69.4	69.2	69.1	69.4	71.6	73.5	74.8	75.5	76.7	76.9	73.4	74.3	73.3	74.0	71.7	70.0	70.0	70.3	69.8	69.5	69.4					
17	68.9	69.0	69.1	68.7	68.0	68.1	67.8	69.8	72.1	71.8	73.7	74.0	75.7	77.1	76.3	75.6	74.5	73.3	71.7	70.1	69.1	68.8	67.9	67.6					
18	67.3	66.5	66.7	66.8	66.9	66.7	66.7	68.2	70.9	73.7	75.0	77.0	77.7	78.1	78.4	77.2	76.6	75.3	71.2	69.4	69.4	68.6	69.1	68.5					
19	68.3	67.1	67.5	67.9	66.8	67.3	68.2	69.1	73.6	74.9	77.4	77.2	79.0	79.3	78.8	77.6	75.8	73.7	72.0	71.2	71.0	70.3	69.4	69.2					
20	69.3	69.5	68.7	67.8	67.3	66.6	67.3	75.4	75.0	76.6	79.4	79.0	77.8	78.4	78.4	77.6	75.7	74.0	71.3	70.7	70.3	69.8	69.5	69.2					
21	68.9	68.2	68.3	66.8	67.0	67.4	68.8	73.5	74.6	75.8	77.4	77.0	76.4	77.2	77.0	76.6	74.7	74.4	71.4	70.6	69.8	69.4	69.4	68.9					
22	68.8	68.1	67.9	67.3	66.7	66.9	67.9	71.1	71.5	71.3	73.5	75.5	73.7	74.6	75.7	76.1	74.1	72.9	71.5	70.0	69.8	68.9	68.8	68.9					
23	68.5	67.9	67.5	67.6	66.9	66.7	68.5	72.1	73.2	75.0	76.6	79.2	78.8	78.4	78.8	75.7	74.6	72.4	69.9	69.5	69.5	69.7	69.6	69.8					
24	69.6	69.4	69.2	69.3	69.4	69.1	69.4	70.4	72.1	73.0	74.5	75.3	76.5	77.2	76.3	75.5	74.2	73.5	72.1	71.2	71.1	71.0	70.6	70.4					
25	70.1	69.5	69.3	68.9	68.4	68.9	68.5	68.5	68.8	70.6	71.5	73.5	73.9	76.1	76.6	76.3	76.5	73.7	71.1	70.2	70.1	69.9	69.5	69.0					
26	69.1	68.5	67.9	67.6	67.6	67.6	68.2	68.9	70.4	70.6	71.9	73.3	72.6	72.8	71.9	71.7	70.9	71.3	71.2	70.4	70.0	70.0	69.8	69.7					
27	69.0	68.6	68.5	68.8	68.6	68.8	69.7	72.1	73.1	73.3	72.8	74.8	76.2	76.6	77.1	74.6	72.6	70.6	69.9	68.6	68.8	69.0	68.7	68.7					
28	69.4	69.1	69.3	69.1	68.6	69.0	69.8	72.6	72.3	74.4	76.6	77.4	78.1	77.3	76.8	75.9	74.4	73.3	71.4	70.7	69.8	69.4	69.2	68.9					
29	68.5	68.2	67.8	67.2	66.7	66.3	66.7	70.2	69.2	70.3	72.2	72.3	74.3	74.7	73.6	73.1	72.9	68.4	67.5	68.1	68.3	68.3	68.1	67.6					
30	68.1	68.0	67.5	67.5	67.0	66.8	67.9	72.1	72.8	74.2	76.3	77.5	77.4	77.2	77.3	77.5	75.9	72.4	69.7	68.5	67.7	67.1	66.2	65.4					
31	64.6	64.8	64.7	63.9	63.2	62.8	66.1	75.8	74.8	77.4	78.9	81.6	80.9	80.6	79.0	77.9	77.5	74.3	71.5	70.2	69.0	68.2	67.5	67.0					

Table 3-4. Ambient Temperature Monthly Summary Site 1

MONTHLY SUMMARY REPORT

LOCATION: SITE 1		TRUE GEOTHERMAL RAIN (INCH )																							
DATA FOR: AUG 1990		HOURS (HST)																							
HR-END	DAY	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.03	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2		0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3		0.00	0.00	0.00	0.00	0.04	0.02	0.03	0.00	0.00	0.02	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
4		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5		0.01	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6		0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.10	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.05
7		0.02	0.05	0.08	0.11	0.10	0.07	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.06	0.00
8		0.03	0.10	0.01	0.06	0.07	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9		0.01	0.02	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
11		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.00	0.00	0.23
12		0.03	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.05	0.12	0.01	0.02	0.03	0.12	0.15	0.07	0.15	0.14	0.08	0.00
13		0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.13	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.12	0.15	0.12
15		0.18	0.02	0.19	0.08	0.09	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.09	0.01	0.00
16		0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.03	0.02	0.04	0.01	0.00	0.00	0.00	0.00	0.00
17		0.00	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.01
18		0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00
20		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06	0.05	0.02	0.02	0.00	0.00
21		0.20	0.01	0.01	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
22		0.00	0.00	0.04	0.01	0.00	0.05	0.03	0.00	0.00	0.03	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23		0.00	0.08	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	0.00	0.00	0.01	0.01	0.03
24		0.11	0.01	0.01	0.00	0.05	0.01	0.00	0.02	0.02	0.06	0.01	0.11	0.00	0.00	0.00	0.04	0.00	0.02	0.07	0.00	0.01	0.00	0.07	0.00
25		0.00	0.00	0.01	0.04	0.00	0.00	0.11	0.09	0.02	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26		0.06	0.00	0.01	0.02	0.02	0.00	0.01	0.02	0.00	0.03	0.02	0.01	0.03	0.00	0.02	0.00	0.07	0.02	0.04	0.01	0.00	0.04	0.00	0.01
27		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
28		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
30		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 3-5. Precipitation Monthly Summary Site 1



MONTHLY SUMMARY REPORT

LOCATION: SITE 1                      SO2                      TRUE GEOTHERMAL (PPB )                      DATA FOR: AUG 1990

HR-END DAY	HOURS (HST)																							
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	0	0	0	0	0	0	0	----	0	0	0	0	0	0	----	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	-----	-----	-----	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-----	-----	-----	-----	2	1	1
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	27	4	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 3-6. Sulfur Dioxide Monthly Summary Site 1



MONTHLY SUMMARY REPORT

LOCATION: SITE 1		H2S		TRUE GEOTHERMAL (PPB )		DATA FOR: AUG 1990																		
										HOURS (HST)														
HR-END	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
DAY																								
1	0	0	0	0	0	0	0	0	0	----	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	-----	-----	-----	-----	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	-----	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	-----	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 3-7. Hydrogen Sulfide Monthly Summary Site 1



HECO ENVIRONMENTAL LABORATORY  
ENVIRONMENTAL DEPARTMENT  
Rainwater Analysis Report

Report Date: September 13, 1990

Site: True/Geothermal  
Pahoa, Hawaii

Sample Date: 08/01/90 - 09/01/90  
(Received 09/06/90)

Parameter	Conc. (ug/l)		Per Cent Recovery
	True 13 (1-3)	True 13 (4)	
pH	4.20	6.05	
Aluminum	<10.0	<10.0	94.2
Arsenic	<5.0	<5.0	99.0
Barium	<20.0	<20.0	106.2
Cadmium	<1.0	<1.0	112.0
Chromium	<4.0	<4.0	82.5
Copper	<10.0	<10.0	98.8
Iron	<10.0	<10.0	103.0
Lead	<5.0	<5.0	100.0
Magnesium	315	<100	99.2
Manganese	<2.0	<2.0	93.8
Mercury	<0.50	<0.50	93.0
Selenium	<5.0	<5.0	97.0
Silver	<2.0	<2.0	113.0
Sodium	2,310	1,255	94.0
Zinc	<10.0	<10.0	87.5
Bromide	<50	<50	
Chloride	4,370	1,460	
Fluoride	113	38	103.8
Phosphate	<61	<61	
Nitrite	<4	<4	
Nitrate	<13	36	105.7
Sulfate	1,360	<206	79.6
Sulfite	<150	<150	

Analyzed by:

*up* *AK*  
C. Kishimoto/G. Kitsuwa

Approved by:

*George Yasutome*  
George Yasutome  
Senior Chemist

Table 3-8. Rain Water Analyses Monthly Summary Site 1  
08/01/90-09/01/90

295/01-011      PROTOCOL: 5      SA

SAMPLE ID: M1616  
 PARTICLE SIZE: T  
 ANALYSIS ID: M1616  
 08/03/90  
 EXPOSED AREA: 12.80 SQUARE CM  
 MASS OF DEPOSIT: 0.+ 10. MICROGRAMS

ELEMENT	UG/CM2		UG/FILTER	
AL	.0041+-	.0040	.052+-	.051
SI	.0023+-	.0026	.029+-	.033
P	.0000+-	.0015	.000+-	.019
S	.0311+-	.0088	.398+-	.113
CL	.1252+-	.0157	1.603+-	.201
K	.0127+-	.0026	.163+-	.033
CA	.0066+-	.0015	.084+-	.019
TI	.0012+-	.0006	.015+-	.008
V	.0006+-	.0005	.008+-	.006
CR	.0010+-	.0005	.013+-	.006
MN	.0000+-	.0006	.000+-	.008
FE	.0191+-	.0017	.244+-	.022
NI	.0001+-	.0006	.001+-	.008
CU	.0042+-	.0006	.054+-	.008
ZN	.0011+-	.0004	.014+-	.005
GA	.0000+-	.0004	.000+-	.005
AS	.0006+-	.0012	.008+-	.015
SE	.0000+-	.0005	.000+-	.006
BR	.0000+-	.0006	.000+-	.008
RB	.0009+-	.0008	.012+-	.010
SR	.0000+-	.0009	.000+-	.012
Y	.0012+-	.0010	.015+-	.013
ZR	.0000+-	.0024	.000+-	.031
MO	.0026+-	.0039	.033+-	.050
PD	.0000+-	.0035	.000+-	.045
AG	.0000+-	.0049	.000+-	.063
CD	.0079+-	.0063	.101+-	.081
IN	.0142+-	.0079	.182+-	.101
SN	.0000+-	.0096	.000+-	.123
SB	.0000+-	.0133	.000+-	.170
BA	.0490+-	.0597	.627+-	.764
LA	.0384+-	.1025	.492+-	1.312
HG	.0000+-	.0008	.000+-	.010
PB	.0006+-	.0021	.008+-	.027

Table 3-9. Metals Filter Analyses August 3, 1990 Site 1

295/01-011      PROTOCOL: 5      SA

SAMPLE ID: M1617  
 PARTICLE SIZE: T  
 ANALYSIS ID: M1617  
 08/09/90 - POWER OUTAGE FROM 1130 - 1800.  
 EXPOSED AREA: 12.80 SQUARE CM  
 MASS OF DEPOSIT: 0.+ 10. MICROGRAMS

ELEMENT	UG/CM2		UG/FILTER	
AL	.0061+-	.0044	.078+-	.056
SI	.0149+-	.0035	.191+-	.045
P	.0000+-	.0015	.000+-	.019
S	.0441+-	.0101	.564+-	.129
CL	.1443+-	.0178	1.847+-	.228
K	.0178+-	.0031	.228+-	.040
CA	.0147+-	.0022	.188+-	.028
TI	.0022+-	.0007	.028+-	.009
V	.0000+-	.0006	.000+-	.008
CR	.0003+-	.0006	.004+-	.008
MN	.0000+-	.0006	.000+-	.008
FE	.0183+-	.0016	.234+-	.020
NI	.0031+-	.0006	.040+-	.008
CU	.0070+-	.0007	.090+-	.009
ZN	.0016+-	.0004	.020+-	.005
GA	.0001+-	.0004	.001+-	.005
AS	.0000+-	.0012	.000+-	.015
SE	.0001+-	.0005	.001+-	.006
BR	.0003+-	.0006	.004+-	.008
RB	.0009+-	.0008	.012+-	.010
SR	.0001+-	.0010	.001+-	.013
Y	.0004+-	.0011	.005+-	.014
ZR	.0000+-	.0026	.000+-	.033
MO	.0000+-	.0041	.000+-	.052
PD	.0009+-	.0035	.012+-	.045
AG	.0000+-	.0049	.000+-	.063
CD	.0014+-	.0061	.018+-	.078
IN	.0000+-	.0081	.000+-	.104
SN	.0000+-	.0096	.000+-	.123
SB	.0149+-	.0136	.191+-	.174
BA	.0085+-	.0639	.109+-	.818
LA	.1940+-	.1066	2.483+-	1.364
HG	.0000+-	.0008	.000+-	.010
PB	.0020+-	.0022	.026+-	.028

Table 3-10. Metals Filter Analyses August 9, 1990 Site 1

295/01-011      PROTOCOL: 5      SA

SAMPLE ID: M1618  
 PARTICLE SIZE: T  
 ANALYSIS ID: M1618  
 08/15/90  
 EXPOSED AREA: 12.80 SQUARE CM  
 MASS OF DEPOSIT: 0.+ 10. MICROGRAMS

ELEMENT	UG/CM2		UG/FILTER	
AL	.0000+-	.0040	.000+-	.051
SI	.0068+-	.0028	.087+-	.036
P	.0000+-	.0014	.000+-	.018
S	.0238+-	.0082	.305+-	.105
CL	.2584+-	.0303	3.308+-	.388
K	.0086+-	.0023	.110+-	.029
CA	.0089+-	.0017	.114+-	.022
TI	.0000+-	.0006	.000+-	.008
V	.0000+-	.0005	.000+-	.006
CR	.0003+-	.0005	.004+-	.006
MN	.0000+-	.0006	.000+-	.008
FE	.0204+-	.0017	.261+-	.022
NI	.0009+-	.0005	.012+-	.006
CU	.0047+-	.0006	.060+-	.008
ZN	.0016+-	.0004	.020+-	.005
GA	.0000+-	.0003	.000+-	.004
AS	.0007+-	.0011	.009+-	.014
SE	.0000+-	.0005	.000+-	.006
BR	.0000+-	.0005	.000+-	.006
RB	.0000+-	.0008	.000+-	.010
SR	.0000+-	.0009	.000+-	.012
Y	.0009+-	.0010	.012+-	.013
ZR	.0000+-	.0023	.000+-	.029
MO	.0000+-	.0037	.000+-	.047
PD	.0000+-	.0032	.000+-	.041
AG	.0060+-	.0047	.077+-	.060
CD	.0050+-	.0056	.064+-	.072
IN	.0076+-	.0071	.097+-	.091
SN	.0000+-	.0089	.000+-	.114
SB	.0000+-	.0126	.000+-	.161
BA	.0000+-	.0586	.000+-	.750
LA	.0000+-	.0988	.000+-	1.265
HG	.0000+-	.0007	.000+-	.009
PB	.0000+-	.0020	.000+-	.026

Table 3-11. Metals Filter Analyses August 15, 1990 Site 1



295/01-011      PROTOCOL: 5      SA

SAMPLE ID: M1619  
PARTICLE SIZE: T  
ANALYSIS ID: M1619  
08/21/90  
EXPOSED AREA: 12.80 SQUARE CM  
MASS OF DEPOSIT: 0.+ 10. MICROGRAMS

ELEMENT	UG/CM2	UG/FILTER
AL	.0076+- .0042	.097+- .054
SI	.0170+- .0036	.218+- .046
P	.0000+- .0015	.000+- .019
S	.0154+- .0079	.197+- .101
CL	.1559+- .0191	1.996+- .244
K	.0067+- .0023	.086+- .029
CA	.0021+- .0012	.027+- .015
TI	.0000+- .0006	.000+- .008
V	.0004+- .0005	.005+- .006
CR	.0010+- .0005	.013+- .006
MN	.0000+- .0006	.000+- .008
FE	.0149+- .0015	.191+- .019
NI	.0013+- .0007	.017+- .009
CU	.0035+- .0006	.045+- .008
ZN	.0008+- .0004	.010+- .005
GA	.0000+- .0004	.000+- .005
AS	.0000+- .0012	.000+- .015
SE	.0000+- .0005	.000+- .006
BR	.0000+- .0006	.000+- .008
RB	.0000+- .0008	.000+- .010
SR	.0015+- .0010	.019+- .013
Y	.0000+- .0011	.000+- .014
ZR	.0035+- .0026	.045+- .033
MO	.0036+- .0042	.046+- .054
PD	.0011+- .0037	.014+- .047
AG	.0032+- .0051	.041+- .065
CD	.0000+- .0065	.000+- .083
IN	.0045+- .0083	.058+- .106
SN	.0000+- .0096	.000+- .123
SB	.0133+- .0133	.170+- .170
BA	.0245+- .0629	.314+- .805
LA	.0604+- .1062	.773+- 1.359
HG	.0000+- .0008	.000+- .010
PB	.0000+- .0022	.000+- .028

Table 3-12. Metals Filter Analyses August 21, 1990 Site 1

295/01-011      PROTOCOL: 5      SA

SAMPLE ID: M1620  
PARTICLE SIZE: T  
ANALYSIS ID: M1620  
08/27/90  
EXPOSED AREA: 12.80 SQUARE CM  
MASS OF DEPOSIT: 0.+ - 10. MICROGRAMS

ELEMENT	UG/CM2		UG/FILTER	
AL	.0050+-	.0042	.064+-	.054
SI	.0146+-	.0033	.187+-	.042
P	.0000+-	.0015	.000+-	.019
S	.0200+-	.0081	.256+-	.104
CL	.1672+-	.0202	2.140+-	.259
K	.0157+-	.0027	.201+-	.035
CA	.0113+-	.0018	.145+-	.023
TI	.0012+-	.0006	.015+-	.008
V	.0002+-	.0005	.003+-	.006
CR	.0009+-	.0005	.012+-	.006
MN	.0000+-	.0006	.000+-	.008
FE	.0195+-	.0017	.250+-	.022
NI	.0000+-	.0007	.000+-	.009
CU	.0035+-	.0006	.045+-	.008
ZN	.0005+-	.0003	.006+-	.004
GA	.0001+-	.0003	.001+-	.004
AS	.0000+-	.0012	.000+-	.015
SE	.0000+-	.0005	.000+-	.006
BR	.0000+-	.0006	.000+-	.008
RB	.0000+-	.0008	.000+-	.010
SR	.0000+-	.0010	.000+-	.013
Y	.0000+-	.0010	.000+-	.013
ZR	.0000+-	.0025	.000+-	.032
MO	.0000+-	.0040	.000+-	.051
PD	.0000+-	.0035	.000+-	.045
AG	.0051+-	.0049	.065+-	.063
CD	.0023+-	.0061	.029+-	.078
IN	.0028+-	.0076	.036+-	.097
SN	.0000+-	.0091	.000+-	.116
SB	.0029+-	.0130	.037+-	.166
BA	.0852+-	.0619	1.091+-	.792
LA	.0000+-	.1006	.000+-	1.288
HG	.0000+-	.0008	.000+-	.010
PB	.0006+-	.0021	.008+-	.027

Table 3-13. Metals Filter Analyses August 27 1990 Site 1

# MEASUREMENT TECHNOLOGIES

## 8" X 10" FILTER GRAVIMETRIC REPORT

Run Day	NEA ID.	FILTER TYPE	TARE WT. GRAMS	GROSS WT. GRAMS	NET WT. MILLIGRAMS
08/03/90	M1649	TSP	4.2097	4.2262	16.50
08/03/90	M1650	PM-10	4.2021	4.2151	13.98
08/9/90	M1651	TSP	4.1898	4.2114	21.60
08/9/90	M1652	PM-10	4.2243	4.2409	16.60
08/15/90	M1849	TSP	4.4940	4.5124	18.40
08/15/90	M1850	PM-10	4.4822	4.4968	14.60
08/21/90	M1851	TSP	4.4053	4.4194	14.10
08/21/90	M1852	PM-10	4.4127	4.4266	13.90
08/27/90	M1653	TSP	4.3721	4.3873	15.20
08/27/90	M1854	PM-10	4.4327	4.4440	11.30

Table 3-14. Total Suspended Particulates (TSP) and Inhaleable Particulates (PM-10) Loading Monthly Summary Site 1

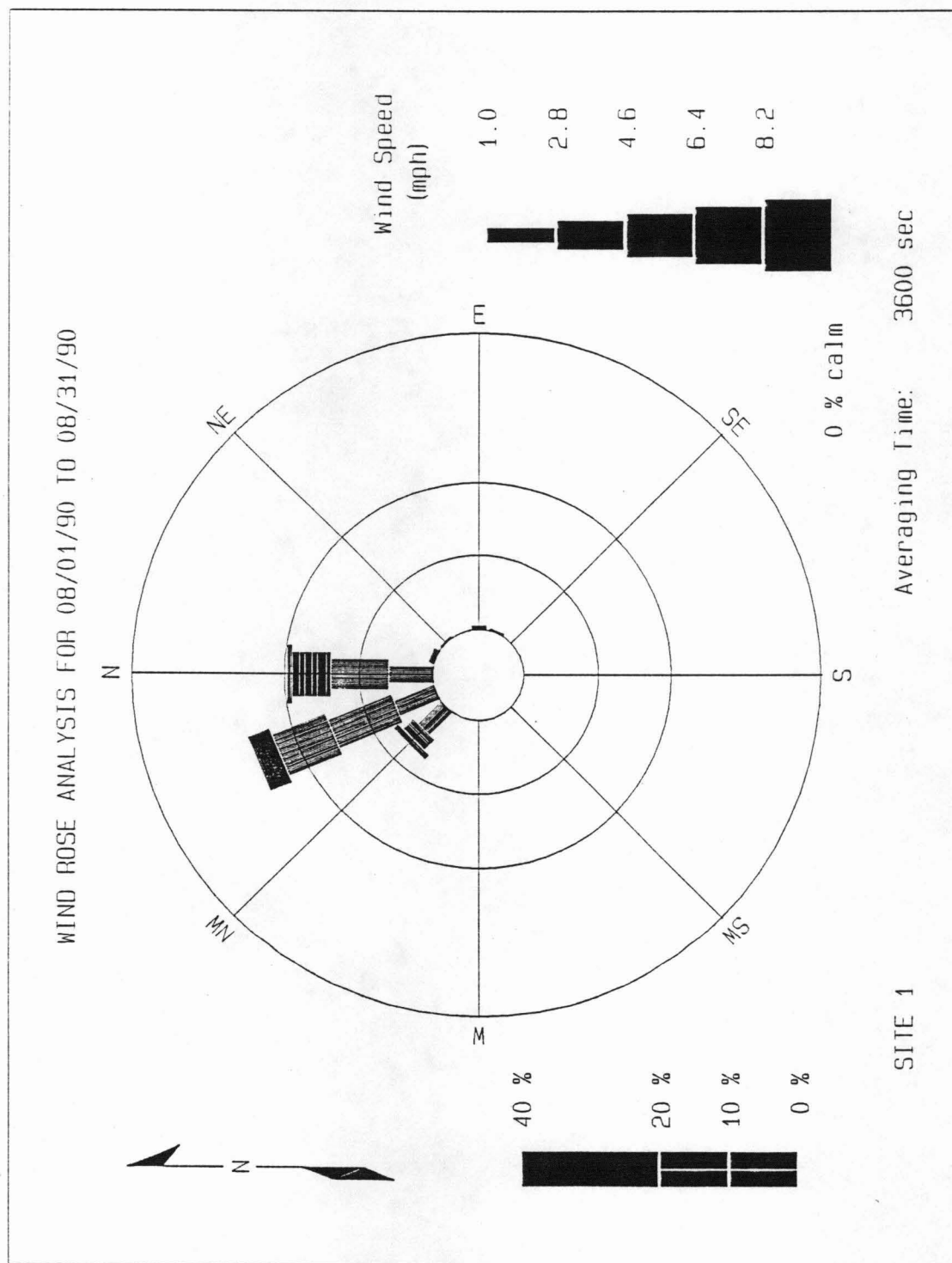


Figure 3-1. Wind Rose Analysis Site 1

WD (DEG) SUMMARY STATISTICS FOR 08/01/90 - 08/31/90

Highest Value:	360.	08/04/90	14:00:00	
Second Highest:	359.	08/04/90	12:00:00	
Lowest Value:	0.	08/01/90	00:00:00	
Arithmetic Mean:	211.		10.000 Percentile:	0.
Standard Deviation:	162.		20.000 Percentile:	0.
			30.000 Percentile:	0.
Geometric Mean:	44.		40.000 Percentile:	297.
Standard Deviation:	15.		50.000 Percentile:	324.
			60.000 Percentile:	335.
Valid Data:	741		70.000 Percentile:	344.
Invalid Data:	3		80.000 Percentile:	348.
Missing Data:	0		90.000 Percentile:	351.
Data Recovery:	99.60%		100.000 Percentile:	360.

SITE 1

Averaging Time: 3600 sec

Table 3-15. Wind Direction Summary Statistics Site 1

WS (MPH) SUMMARY STATISTICS FOR 08/01/90 - 08/31/90

Highest Value:	8.2	08/26/90	09:00:00	
Second Highest:	8.1	08/26/90	10:00:00	
Lowest Value:	0.0	08/01/90	00:00:00	
Arithmetic Mean:	2.0		10.000 Percentile:	0.0
Standard Deviation:	2.2		20.000 Percentile:	0.0
			30.000 Percentile:	0.0
Geometric Mean:	1.6		40.000 Percentile:	0.4
Standard Deviation:	2.7		50.000 Percentile:	1.4
			60.000 Percentile:	2.4
Valid Data:	741		70.000 Percentile:	3.3
Invalid Data:	3		80.000 Percentile:	4.2
Missing Data:	0		90.000 Percentile:	5.2
Data Recovery:	99.60%		100.000 Percentile:	8.2

SITE 1

Averaging Time: 3600 sec

Table 3-16. Wind Speed Summary Statistics Site 1



Sigél (deg) SUMMARY STATISTICS FOR 08/01/90 - 08/31/90

Highest Value:	120.3	08/31/90	04:00:00	
Second Highest:	118.6	08/31/90	05:00:00	
Lowest Value:	13.3	08/30/90	06:00:00	
Arithmetic Mean:	42.3			
Standard Deviation:	20.8			
		10.000	Percentile:	18.1
		20.000	Percentile:	23.6
		30.000	Percentile:	29.5
Geometric Mean:	37.6	40.000	Percentile:	33.6
Standard Deviation:	1.6	50.000	Percentile:	37.9
		60.000	Percentile:	43.4
Valid Data:	741	70.000	Percentile:	50.5
Invalid Data:	3	80.000	Percentile:	58.1
Missing Data:	0	90.000	Percentile:	71.3
Data Recovery:	99.60%	100.000	Percentile:	120.3

SITE 1

Averaging Time: 3600 sec

Table 3-17. Sigma Theta Summary Statistics Site 1

TEMP (DEG F) SUMMARY STATISTICS FOR 08/01/90 - 08/31/90

Highest Value:	81.6	08/31/90	11:00:00	
Second Highest:	80.9	08/31/90	12:00:00	
Lowest Value:	62.8	08/31/90	05:00:00	
Arithmetic Mean:	71.4			
Standard Deviation:	3.7			
		10.000	Percentile:	67.3
		20.000	Percentile:	68.2
		30.000	Percentile:	68.9
Geometric Mean:	71.3	40.000	Percentile:	69.4
Standard Deviation:	1.1	50.000	Percentile:	70.3
		60.000	Percentile:	71.7
Valid Data:	741	70.000	Percentile:	73.5
Invalid Data:	3	80.000	Percentile:	75.4
Missing Data:	0	90.000	Percentile:	77.2
Data Recovery:	99.60%	100.000	Percentile:	81.6

SITE 1

Averaging Time: 3600 sec

Table 3-18 Ambient Temperature Summary Statistics Site 1

RAIN (INCH) SUMMARY STATISTICS FOR 08/01/90 - 08/31/90

Highest Value:	0.23	08/11/90	23:00:00	
Second Highest:	0.20	08/21/90	00:00:00	
Lowest Value:	0.00	08/01/90	00:00:00	
Arithmetic Mean:	0.01		10.000 Percentile:	0.00
Standard Deviation:	0.03		20.000 Percentile:	0.00
			30.000 Percentile:	0.00
Geometric Mean:	0.00		40.000 Percentile:	0.00
Standard Deviation:	1.00		50.000 Percentile:	0.00
			60.000 Percentile:	0.00
Valid Data:	744		70.000 Percentile:	0.00
Invalid Data:	0		80.000 Percentile:	0.01
Missing Data:	0		90.000 Percentile:	0.03
Data Recovery:	100.00%		100.000 Percentile:	0.23

SITE 1

Averaging Time: 3600 sec

Table 3-19. Precipitation Summary Statistics Site 1

SO2 (PPB) SUMMARY STATISTICS FOR 08/01/90 - 08/31/90

Highest Value:	27.	08/28/90	16:00:00	
Second Highest:	13.	08/28/90	15:00:00	
Lowest Value:	0.	08/01/90	00:00:00	
Arithmetic Mean:	0.		10.000 Percentile:	0.
Standard Deviation:	1.		20.000 Percentile:	0.
			30.000 Percentile:	0.
Geometric Mean:	1.		40.000 Percentile:	0.
Standard Deviation:	1.		50.000 Percentile:	0.
			60.000 Percentile:	0.
Valid Data:	735		70.000 Percentile:	0.
Invalid Data:	9		80.000 Percentile:	0.
Missing Data:	0		90.000 Percentile:	0.
Data Recovery:	98.79%		100.000 Percentile:	27.

SITE 1

Averaging Time: 3600 sec

Table 3-20. Sulfur Dioxide Summary Statistics Site 1

H2S (PPB) SUMMARY STATISTICS FOR 08/01/90 - 08/31/90

Highest Value:	0.	08/01/90	00:00:00	
Second Highest:	0.	08/01/90	01:00:00	
Lowest Value:	0.	08/01/90	00:00:00	
Arithmetic Mean:	0.	10.000	Percentile:	0.
Standard Deviation:	0.	20.000	Percentile:	0.
		30.000	Percentile:	0.
Geometric Mean:	0.	40.000	Percentile:	0.
Standard Deviation:	1.	50.000	Percentile:	0.
		60.000	Percentile:	0.
Valid Data:	737	70.000	Percentile:	0.
Invalid Data:	7	80.000	Percentile:	0.
Missing Data:	0	90.000	Percentile:	0.
Data Recovery:	99.06%	100.000	Percentile:	0.

SITE 1

Averaging Time: 3600 sec

Table 3-21. Hydrogen Sulfide Summary Statistics Site 1

3.2

Meteorological Monitoring Data Site 2

MONTHLY SUMMARY REPORT

TRUE GEOTHERMAL

LOCATION: SITE 2, MET

WD

(DEG )

DATA FOR: AUG 1990

HR-END DAY	HOURS (HST)																							
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	317	327	341	347	351	348	344	337	21	348	68	63	58	78	74	57	49	35	3	339	341	342	352	340
2	343	345	344	338	339	348	339	339	343	1	26	11	38	44	35	37	32	30	30	19	14	15	354	346
3	348	338	334	323	330	332	310	305	308	46	58	62	58	54	41	29	24	355	341	342	337	333	342	342
4	345	344	342	340	338	336	335	347	354	355	16	23	38	40	38	42	32	17	8	354	349	342	344	341
5	339	336	320	312	307	308	320	330	344	346	1	43	38	41	38	37	27	30	16	2	358	356	1	350
6	344	342	336	322	312	307	321	311	330	359	346	16	24	27	51	40	28	6	357	347	343	339	339	345
7	350	346	336	343	343	348	20	10	14	14	35	32	36	45	39	39	31	30	27	23	14	347	359	359
8	359	4	349	351	57	47	43	45	45	46	40	45	42	32	42	55	43	36	34	29	12	7	8	354
9	309	313	329	307	304	305	288	300	330	28	41	50	51	39	50	38	32	39	26	355	359	14	358	5
10	342	318	312	301	295	297	301	335	10	36	44	30	35	42	38	47	40	38	37	22	359	334	336	345
11	355	0	334	323	313	309	308	323	345	358	7	5	23	34	39	31	28	19	7	344	345	329	334	319
12	333	316	314	313	314	317	318	324	326	349	350	349	21	44	25	25	344	2	33	352	37	83	81	81
13	352	337	330	326	320	307	321	344	10	23	22	34	30	34	46	43	40	36	30	349	331	325	325	321
14	329	325	319	333	330	330	329	340	351	6	28	48	72	68	65	53	45	34	29	358	341	352	344	1
15	56	56	18	5	43	43	52	47	46	41	34	30	27	37	35	43	45	40	37	350	333	317	333	342
16	338	347	344	345	347	346	357	17	17	8	38	38	53	34	39	53	46	51	46	22	35	17	4	357
17	348	347	353	348	335	344	340	345	11	17	8	9	25	30	30	29	31	24	23	6	343	338	334	319
18	326	318	327	326	321	317	320	332	348	18	17	19	19	32	32	34	26	19	356	337	332	331	334	321
19	309	303	302	320	303	313	298	309	308	349	22	85	87	86	80	72	61	48	47	44	39	36	339	320
20	326	327	315	312	305	306	309	341	356	23	27	35	43	48	43	34	35	16	9	355	348	341	339	331
21	340	339	328	323	323	319	317	331	350	9	27	32	37	43	47	45	49	41	29	30	33	4	349	351
22	342	341	337	327	321	330	321	318	324	356	342	8	37	35	34	41	38	39	40	60	60	56	356	73
23	302	324	305	317	307	297	306	334	360	1	15	26	29	25	37	45	35	30	18	345	325	320	308	314
24	307	293	306	310	320	319	327	334	355	16	35	37	35	48	54	57	58	56	47	41	23	0	343	4
25	348	342	341	346	336	331	332	7	338	346	13	24	24	26	24	15	14	359	357	350	346	343	344	346
26	344	341	337	341	342	333	343	342	351	357	3	20	19	28	5	19	31	18	3	358	349	339	337	
27	328	325	322	328	324	320	316	325	335	340	349	357	360	357	358	349	347	341	339	316	310	313	314	319
28	325	319	317	322	327	329	324	331	340	348	3	8	11	10	11	10	0	352	355	337	330	329	330	324
29	322	317	319	317	314	311	320	335	343	353	348	352	17	1	5	357	344	343	330	328	330	333	331	327
30	332	326	329	324	331	327	322	335	344	349	358	10	15	12	11	5	7	352	343	333	327	320	305	299
31	288	303	295	292	296	297	292	312	343	8	26	40	39	34	41	43	43	34	8	349	315	306	302	271

Table 3-22. Wind Direction Monthly Summary Site 2



## MONTHLY SUMMARY REPORT

## TRUE GEOTHERMAL

LOCATION: SITE 2, MET

WS

(MPH )

DATA FOR: AUG 1990

HR-END DAY	HOURS (HST)																							
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	2.3	1.8	2.2	3.1	2.8	1.1	2.1	4.0	1.7	2.1	1.7	4.0	6.0	8.1	7.6	5.5	4.8	3.9	3.2	5.4	3.9	4.5	3.1	4.7
2	3.7	2.3	2.4	2.6	3.4	2.6	4.2	4.2	5.3	5.2	6.0	5.5	6.0	8.0	6.8	7.3	6.6	6.8	5.5	4.5	4.0	3.1	4.3	4.0
3	3.1	3.6	2.5	2.9	2.8	2.3	2.5	3.1	1.7	1.7	3.9	5.6	5.2	5.0	4.6	3.8	4.0	5.1	6.5	7.0	7.3	6.2	6.6	8.1
4	8.2	8.2	8.1	7.2	7.4	6.8	6.5	6.4	5.7	5.9	5.1	5.9	6.2	7.2	7.0	6.5	6.8	5.6	4.4	4.1	4.5	5.1	4.3	4.2
5	3.5	3.5	3.9	5.2	5.1	5.1	4.5	2.6	4.0	3.2	4.7	5.9	6.7	8.0	7.9	7.8	7.1	6.6	6.0	4.8	5.4	6.0	4.5	5.5
6	5.8	6.0	5.3	4.1	4.9	5.7	2.9	5.3	7.3	7.4	8.6	7.0	7.0	7.6	8.3	6.6	3.0	6.0	6.7	9.1	10.3	10.3	8.6	7.9
7	8.6	9.2	8.3	7.1	4.2	2.2	1.2	2.8	4.2	5.7	7.3	7.6	8.2	9.8	8.4	8.0	6.6	6.6	5.4	4.7	3.4	5.2	5.2	4.4
8	3.8	3.4	3.5	2.4	4.9	4.8	4.0	5.7	7.2	8.4	8.2	9.0	8.3	8.1	7.8	7.2	6.7	5.1	5.0	4.1	1.5	1.8	0.8	0.6
9	0.7	2.7	1.5	2.4	3.9	3.3	3.2	4.6	3.8	4.3	5.5	7.3	7.4	7.9	8.0	6.8	7.2	5.3	4.1	2.6	3.0	1.8	1.7	1.3
10	1.5	2.5	3.0	3.7	3.1	4.0	3.7	4.5	3.7	6.9	7.5	7.0	7.1	6.6	7.9	7.6	6.4	6.1	5.5	2.8	2.1	2.8	3.7	4.3
11	2.5	1.8	2.6	3.8	4.6	4.0	4.4	3.7	5.8	5.5	6.7	6.8	7.1	7.3	8.2	8.6	7.8	6.9	5.7	6.4	5.3	6.5	6.9	5.0
12	2.5	3.5	4.1	4.3	4.3	3.4	3.0	4.1	3.9	4.5	5.3	5.5	5.2	3.1	3.8	1.1	0.8	0.4	0.7	0.0	0.6	2.6	7.5	2.6
13	0.1	0.1	0.1	0.5	0.1	0.2	0.1	2.1	3.3	4.3	5.4	6.4	6.3	5.9	7.0	6.9	6.6	4.8	3.1	3.7	4.4	4.5	4.8	5.8
14	5.8	5.9	7.5	7.5	8.6	7.3	7.3	8.4	8.2	6.7	6.6	6.0	7.2	8.6	7.5	6.7	5.8	5.0	3.6	2.0	4.0	3.7	3.8	3.2
15	3.1	1.0	2.4	0.9	3.6	3.8	5.7	7.1	7.4	7.6	7.1	7.6	6.6	7.3	7.6	6.8	6.6	5.0	3.7	3.0	3.2	2.3	2.8	2.4
16	3.2	3.4	4.0	4.1	5.3	6.0	4.4	4.6	5.5	6.2	7.3	7.7	8.0	6.5	6.6	6.2	5.4	5.7	4.1	1.1	1.5	1.2	2.2	3.8
17	4.6	6.0	5.1	5.9	5.4	4.3	4.3	4.2	4.0	5.4	6.5	6.5	6.8	8.9	8.6	7.5	8.1	7.2	5.3	4.6	5.6	5.3	4.1	4.9
18	5.1	6.0	5.7	4.6	5.4	5.0	5.1	5.8	6.7	5.9	6.6	7.3	7.7	7.3	7.9	8.0	7.2	7.0	5.6	6.3	6.5	6.7	6.2	5.3
19	5.4	5.7	4.2	3.3	4.8	2.9	2.2	1.5	3.3	2.1	1.4	4.7	5.7	6.3	6.3	5.1	5.2	4.8	4.6	4.2	3.8	1.8	0.2	0.5
20	3.1	2.3	1.7	0.8	0.7	4.2	3.2	2.5	4.9	5.3	5.6	6.9	7.6	8.8	8.1	8.2	8.1	6.4	5.6	6.4	7.6	8.1	6.6	6.7
21	5.6	4.9	4.9	5.3	4.7	4.6	4.0	4.6	4.9	5.2	6.1	7.0	7.4	8.3	8.8	7.5	8.5	7.0	4.9	3.4	3.1	2.3	1.9	2.9
22	3.4	1.8	1.6	2.5	3.8	2.6	3.7	5.6	5.2	4.7	6.9	5.7	6.7	5.4	6.7	7.4	6.4	5.3	4.9	5.6	5.0	3.4	0.4	0.8
23	3.0	3.0	3.6	1.6	5.2	4.9	4.1	4.7	3.9	5.6	6.1	6.8	7.2	7.5	7.7	6.5	5.2	4.2	1.9	3.8	2.1	1.4	3.7	1.7
24	0.4	1.9	3.6	0.1	0.4	4.3	4.5	4.3	3.6	4.4	5.3	5.5	6.1	6.8	7.3	6.8	7.1	6.1	5.8	5.7	2.8	3.7	5.9	3.3
25	5.9	6.9	6.4	5.1	5.7	5.0	4.6	3.7	4.5	7.5	6.2	5.9	6.9	7.8	8.1	8.3	7.6	8.3	7.3	9.8	10.7	10.3	10.9	11.3
26	11.0	10.8	8.4	6.5	8.2	7.9	7.5	8.8	11.3	10.3	9.6	9.4	10.0	8.8	8.9	8.9	8.1	9.5	8.0	7.2	6.9	7.4	7.9	7.3
27	6.7	6.5	6.6	7.7	7.6	7.7	8.0	8.0	10.1	10.0	10.4	9.1	7.7	7.8	8.0	8.8	8.5	10.9	8.4	7.1	6.6	6.1	6.6	5.5
28	5.7	5.6	6.7	6.6	7.0	7.7	6.8	7.1	9.2	8.4	7.3	6.8	6.7	7.8	7.4	6.8	6.4	7.0	5.4	6.4	5.9	6.9	6.0	5.1
29	5.5	6.2	5.7	5.3	5.7	6.0	5.0	6.4	7.0	6.0	6.8	7.9	7.8	7.3	6.5	7.4	9.2	8.9	8.6	8.1	8.1	9.1	8.4	7.8
30	7.7	7.1	7.0	6.6	7.7	7.6	6.7	9.0	10.6	10.7	9.2	8.5	8.4	8.8	8.4	8.6	7.9	7.9	7.0	6.5	6.5	6.0	5.5	5.2
31	2.3	5.0	4.1	3.2	3.5	2.7	2.8	3.4	5.2	4.9	4.4	6.0	6.2	7.1	7.3	7.1	6.0	4.7	2.5	1.4	1.7	2.4	0.7	0.2

Table 3-23. Wind Speed Monthly Summary Site 2

MONTHLY SUMMARY REPORT

LOCATION: SITE 2, MET		TRUE GEOTHERMAL																								DATA FOR: AUG 1990	
		Sig01	(deg )																								
HR-END DAY		HOURS (HST)																									
		01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	18.5	23.2	24.9	29.7	29.8	35.3	41.8	25.7	27.6	37.2	36.1	28.7	21.6	18.3	18.7	20.3	22.1	23.7	29.0	20.3	21.9	21.6	28.9	21.4	21.4		
2	27.4	28.4	23.7	22.9	26.3	31.2	26.9	23.2	25.3	29.5	29.5	31.4	28.2	22.9	28.4	24.6	28.0	24.9	26.7	29.8	31.3	30.7	24.8	25.1	25.1		
3	28.0	22.4	20.5	16.6	17.5	21.6	19.1	15.9	25.8	31.2	24.0	22.6	21.5	18.3	22.3	28.2	26.3	28.0	23.1	22.9	20.3	19.9	25.1	21.4	21.4		
4	21.8	20.9	22.5	19.6	18.6	15.7	15.2	23.6	30.3	30.7	35.5	31.5	29.6	26.2	28.6	30.2	28.1	31.8	30.2	25.3	23.4	22.1	23.2	25.7	25.7		
5	24.7	22.0	21.0	15.7	14.2	15.0	15.5	27.8	26.2	31.9	34.4	22.3	26.0	24.2	24.3	28.0	30.7	27.9	29.5	31.7	29.5	26.3	30.8	25.3	25.3		
6	22.1	19.3	16.5	16.4	14.3	14.6	34.6	17.4	19.4	30.8	25.2	30.1	31.3	30.7	21.4	26.4	35.5	30.9	27.0	23.2	23.1	18.5	21.3	24.3	24.3		
7	27.3	25.1	21.2	21.6	24.6	42.2	34.7	32.5	33.4	30.7	27.1	27.5	27.9	24.0	25.2	24.8	28.7	28.2	28.4	29.2	33.9	25.3	30.8	31.7	31.7		
8	29.5	37.1	28.5	44.5	22.3	29.6	26.9	21.9	20.7	22.6	24.6	23.5	25.4	26.7	25.2	20.9	21.8	24.3	25.2	28.0	30.8	28.2	29.3	25.9	25.9		
9	18.1	14.2	27.3	23.7	14.3	18.8	16.5	16.6	26.4	29.7	31.2	26.4	27.9	25.9	26.3	25.4	27.3	23.2	25.7	25.3	29.2	28.7	28.4	27.0	27.0		
10	25.4	15.8	15.0	13.7	15.7	14.9	14.8	18.3	33.9	26.5	25.3	29.2	26.8	25.3	26.2	21.0	24.7	22.3	22.0	33.1	26.4	17.6	23.7	24.8	24.8		
11	28.6	27.9	22.9	18.0	14.1	13.7	14.2	18.5	25.7	33.4	34.2	32.6	30.8	29.2	28.0	27.8	27.9	30.8	28.5	20.5	22.0	16.6	18.3	22.4	22.4		
12	27.9	19.0	17.0	13.9	15.7	14.9	41.5	18.6	22.0	30.8	31.7	28.4	30.4	29.6	29.6	35.2	29.8	47.3	30.9	34.1	43.9	41.9	20.2	20.5	20.5		
13	29.5	25.4	17.2	37.7	20.1	21.2	14.2	17.9	33.9	30.4	32.3	29.7	29.5	33.3	26.9	25.3	23.7	23.5	27.9	23.7	16.8	15.9	15.4	15.9	15.9		
14	15.7	16.6	16.3	15.9	15.9	15.5	15.4	19.9	27.5	31.8	29.3	26.7	21.0	19.7	23.2	24.2	25.7	27.6	27.5	25.8	20.9	28.9	27.0	28.7	28.7		
15	24.1	39.4	45.4	37.3	25.8	23.6	20.2	20.1	21.8	25.3	28.1	26.9	31.9	29.1	28.6	26.8	23.1	27.5	27.0	23.8	21.0	25.9	22.0	40.7	40.7		
16	25.7	26.8	28.7	26.2	25.8	25.2	31.5	33.3	30.8	33.7	25.2	25.8	23.7	26.5	26.9	24.8	24.3	21.8	21.4	29.5	22.1	28.7	29.0	30.2	30.2		
17	24.2	25.8	29.0	24.9	28.2	27.3	20.5	26.7	34.1	32.5	31.7	32.0	30.4	26.5	30.3	30.2	25.6	29.6	32.5	29.7	19.7	23.6	29.3	18.1	18.1		
18	19.3	17.4	18.8	20.5	16.8	19.0	16.6	19.8	24.2	33.9	33.4	31.9	31.5	30.8	28.0	27.3	29.5	29.8	24.8	16.5	16.1	16.0	16.8	15.9	15.9		
19	13.9	12.7	13.8	13.6	14.9	16.3	15.5	18.6	18.5	38.8	37.9	25.3	24.2	24.8	22.0	21.6	22.4	20.2	20.4	21.8	22.0	23.0	20.4	15.9	15.9		
20	19.1	19.6	14.8	13.3	12.4	11.9	12.1	19.8	30.6	31.5	31.4	30.0	24.9	23.0	23.2	25.6	24.0	29.8	30.3	31.4	24.3	19.3	23.4	17.9	17.9		
21	22.9	21.2	22.0	17.1	17.2	15.4	16.1	19.0	28.1	32.8	33.0	30.4	28.4	23.4	24.1	22.7	19.7	22.7	28.5	27.6	26.0	30.4	24.6	28.5	28.5		
22	27.0	22.7	20.5	19.7	15.5	27.5	17.6	17.0	21.8	28.9	24.9	32.6	29.6	28.5	28.7	22.0	22.9	23.0	21.6	21.9	20.8	23.7	25.2	32.8	32.8		
23	12.4	33.4	14.3	50.1	15.4	16.1	17.9	20.1	35.3	32.0	33.5	30.7	30.8	31.8	25.4	27.9	26.0	26.8	26.9	22.0	17.4	34.4	13.6	22.1	22.1		
24	28.5	47.9	19.3	19.6	27.4	16.3	16.5	18.3	29.5	31.5	31.1	27.4	28.9	23.4	21.9	21.3	21.4	21.2	22.3	24.5	32.3	31.7	24.2	30.4	30.4		
25	23.2	22.3	23.6	25.3	17.7	17.9	21.4	35.0	33.7	27.1	33.3	34.2	32.4	31.3	30.8	34.1	33.0	30.7	29.6	24.8	26.0	21.6	22.1	23.0	23.0		
26	22.7	19.8	19.6	19.8	20.4	18.1	21.6	20.7	20.4	27.8	29.6	33.3	30.9	32.4	31.4	33.3	31.5	28.7	32.5	31.4	30.4	25.8	19.1	19.1	19.1		
27	18.6	17.7	17.2	16.6	15.8	16.3	15.9	18.5	17.9	20.5	25.7	31.1	32.2	31.5	33.6	24.9	24.5	18.2	17.4	16.5	14.6	15.9	16.5	15.5	15.5		
28	15.8	15.7	14.9	14.7	14.8	14.8	15.3	16.5	19.2	27.5	32.4	33.0	36.6	33.6	31.1	34.0	31.8	28.2	28.4	16.9	14.6	14.2	14.7	14.6	14.6		
29	14.9	14.3	14.3	13.5	14.1	12.7	13.6	15.2	20.9	30.2	26.8	27.8	32.4	32.4	33.1	30.4	21.6	19.8	17.4	16.4	14.3	14.8	15.7	15.3	15.3		
30	16.5	15.7	16.3	15.5	15.8	15.7	16.4	18.3	23.8	27.1	30.0	33.7	34.7	34.5	34.5	31.9	32.5	28.6	18.8	14.1	15.5	15.0	14.3	13.9	13.9		
31	17.2	14.2	14.2	15.4	15.7	16.6	15.9	19.6	23.6	35.8	35.2	30.8	35.6	29.3	23.8	23.7	25.2	25.3	25.6	28.1	17.1	10.4	13.2	21.9	21.9		

Table 3-24. Sigma Theta Monthly Summary Site 2

MONTHLY SUMMARY REPORT

LOCATION: SITE 2, MET				TRUE GEOTHERMAL																	DATA FOR: AUG 1990						
				VWS																	(MPH )						
				HOURS (HST)																							
HR-END	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
DAY																											
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.3	-0.2	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0	-0.1	-0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.0			
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.1	-0.2	-0.2	-0.1	0.0	0.0	0.1	0.0	0.0	0.0	-0.1	0.0	0.0	-0.1			
4	0.0	-0.1	0.0	0.0	-0.1	0.0	-0.1	0.1	0.0	0.0	-0.2	0.0	0.0	-0.1	0.0	-0.3	-0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0			
5	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1	-0.1	-0.1	0.0	0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0			
6	0.0	0.0	0.0	-0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	-0.3	-0.2	-0.3	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.1	0.1			
7	0.1	0.2	0.0	0.2	0.1	0.0	0.1	0.0	0.1	0.2	0.0	0.0	0.0	-0.1	0.0	-0.2	0.0	0.1	0.0	0.1	0.1	0.2	0.1	0.1			
8	0.1	0.0	0.1	0.1	-0.1	-0.1	0.0	-0.1	0.0	-0.1	0.0	-0.1	0.0	0.1	0.0	-0.2	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1			
9	0.1	0.1	0.0	0.1	0.2	0.1	0.0	0.2	0.1	0.1	-0.1	-0.1	-0.2	0.1	-0.2	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.1			
10	0.1	0.0	0.1	0.1	-0.1	0.0	0.0	0.2	-0.1	0.1	-0.1	0.1	0.0	-0.2	0.0	-0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.2			
11	0.2	0.1	0.1	0.1	0.1	0.2	0.3	0.1	0.3	0.0	0.0	0.1	-0.1	-0.2	-0.2	-0.1	0.0	-0.1	0.0	0.2	0.1	0.1	0.1	0.1			
12	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	-0.1	-0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	-0.1	-0.3	-0.2			
13	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.2	0.0	0.0	-0.1	0.0	0.0	-0.1	-0.2	-0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0			
14	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.2	0.1	0.0	0.0	-0.2	-0.4	-0.3	-0.2	-0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0			
15	-0.1	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1	0.0	-0.2	0.0	0.1	0.0	-0.2	0.0	-0.2	-0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1			
16	0.1	0.2	0.2	0.2	0.3	0.1	0.0	0.0	0.1	0.1	0.0	0.0	-0.2	0.0	-0.1	-0.2	0.0	-0.1	-0.1	0.1	0.1	0.1	0.1	0.1			
17	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	-0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1			
18	0.1	0.2	0.0	0.1	0.2	0.1	0.1	0.1	0.2	-0.2	0.0	0.1	0.0	-0.2	-0.1	0.0	-0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0			
19	0.2	0.3	0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.2	-0.3	-0.2	-0.3	-0.2	-0.1	0.0	-0.1	0.0	0.1	0.0	0.0			
20	0.0	0.1	0.0	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.1	-0.1	-0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0			
21	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	-0.2	-0.1	-0.1	-0.1	0.0	-0.2	-0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1			
22	0.2	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-0.1	0.0	0.0	0.0	0.1	0.1	0.0	-0.2	-0.1	-0.1	0.0	0.0			
23	0.3	0.1	0.2	0.0	0.3	0.2	0.2	0.2	0.0	-0.1	-0.1	0.0	0.0	-0.1	-0.1	-0.3	0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.0			
24	0.0	0.0	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	-0.1	-0.1	-0.3	-0.3	-0.3	-0.1	-0.1	0.1	0.1	0.1	0.1			
25	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.3	-0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.1	0.3	0.3	0.2	0.1	0.2			
26	0.3	0.3	0.1	0.1	0.2	0.0	0.2	0.2	0.2	0.2	0.2	-0.2	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.2	0.2	0.2	0.1			
27	0.1	0.0	0.1	0.1	0.0	-0.1	0.1	0.0	0.1	0.0	0.3	0.2	0.1	0.0	0.0	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.0			
28	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1	-0.1	0.1	-0.1	0.0	0.0	-0.2	-0.1	0.0	0.0	0.1	0.0	0.0	-0.1	0.0			
29	0.0	0.0	0.0	0.1	0.1	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.1	-0.3	0.0	0.1	0.1	0.2	0.0	0.0	0.0	0.1	0.1	0.0			
30	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.2	0.1	0.3	0.2	-0.1	0.0	0.1	-0.3	0.0	-0.1	0.1	0.1	0.1	0.0	0.0	0.2	0.1			
31	-0.2	0.1	-0.1	-0.3	-0.2	-0.1	-0.2	0.1	0.3	0.1	-0.1	-0.1	-0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0			

Table 3-25. Vertical Wind Speed Monthly Summary Site 2

## MONTHLY SUMMARY REPORT

LOCATION: SITE 2, MET      TRUE GEOTHERMAL      DATA FOR: AUG 1990  
 SIG W      (DEG )

HR-END DAY	HOURS (HST)																								
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.4	0.4	0.4	0.4	0.4	0.6	0.6	0.5	0.6	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	
2	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.5	0.6	0.8	0.7	0.8	0.8	0.7	0.7	0.8	0.8	0.8	0.7	0.6	0.5	0.5	0.3	
3	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.4	0.4	0.4	0.5	0.5	0.4	
4	0.5	0.5	0.4	0.4	0.4	0.3	0.4	0.5	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.6	0.4	0.3	0.3	0.3	0.3	
5	0.3	0.4	0.3	0.4	0.3	0.3	0.3	0.2	0.4	0.4	0.6	0.7	0.7	0.8	0.8	0.9	1.0	0.8	0.8	0.6	0.6	0.6	0.5	0.4	
6	0.3	0.3	0.2	0.3	0.3	0.4	0.2	0.4	0.5	0.8	0.6	0.8	0.9	0.9	0.8	0.8	0.8	0.8	0.7	0.8	0.7	0.7	0.6	0.7	
7	0.8	0.7	0.6	0.7	0.4	0.3	0.4	0.5	0.6	0.8	0.8	0.9	1.0	0.9	0.9	0.8	0.8	0.8	0.8	0.6	0.6	0.5	0.6	0.5	
8	0.5	0.5	0.4	0.4	0.4	0.5	0.5	0.6	0.8	0.8	0.9	0.8	0.9	1.0	0.9	0.7	0.7	0.6	0.7	0.5	0.3	0.4	0.3	0.2	
9	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.5	0.5	0.6	0.7	0.7	0.7	0.8	0.7	0.8	0.8	0.6	0.6	0.3	0.4	0.3	0.3	0.3	
10	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.6	0.8	0.9	0.9	0.8	0.8	0.9	0.8	0.7	0.7	0.7	0.5	0.3	0.2	0.3	0.4	
11	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.4	0.6	0.7	0.9	0.9	0.9	0.9	0.9	1.0	1.1	0.9	0.7	0.5	0.4	0.4	0.5	0.5	
12	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.4	0.4	0.5	0.6	0.6	0.7	0.5	0.6	0.5	0.3	0.4	0.4	0.2	0.3	0.4	0.6	0.3	
13	0.2	0.2	0.1	0.3	0.2	0.2	0.2	0.4	0.7	0.7	0.7	0.8	0.8	0.7	0.7	0.6	0.6	0.6	0.4	0.3	0.3	0.3	0.3	0.4	
14	0.4	0.5	0.5	0.5	0.6	0.4	0.5	0.6	0.8	0.8	0.8	0.6	0.5	0.6	0.5	0.7	0.6	0.6	0.6	0.3	0.3	0.4	0.3	0.4	
15	0.3	0.2	0.4	0.3	0.5	0.6	0.5	0.7	0.7	0.8	0.8	0.9	0.9	0.8	0.9	0.7	0.6	0.6	0.5	0.3	0.3	0.3	0.3	0.3	
16	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.7	0.8	1.0	0.9	0.8	0.8	0.8	0.8	0.7	0.6	0.6	0.4	0.3	0.3	0.4	0.4	0.5	
17	0.4	0.5	0.6	0.5	0.5	0.5	0.3	0.4	0.6	0.7	0.8	0.9	0.9	0.9	1.1	0.9	1.0	1.1	0.7	0.6	0.4	0.4	0.4	0.4	
18	0.4	0.6	0.5	0.4	0.5	0.4	0.4	0.4	0.7	0.7	0.9	0.9	0.9	0.8	0.8	0.9	0.9	0.9	0.6	0.4	0.4	0.4	0.4	0.3	
19	0.4	0.4	0.3	0.2	0.3	0.2	0.2	0.2	0.4	0.4	0.3	0.5	0.5	0.5	0.6	0.4	0.5	0.5	0.5	0.5	0.4	0.3	0.1	0.2	
20	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.6	0.7	0.7	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.6	0.6	0.5	0.5
21	0.4	0.4	0.5	0.4	0.4	0.4	0.3	0.4	0.5	0.8	0.8	0.9	0.8	0.8	0.9	0.7	0.8	0.7	0.7	0.5	0.5	0.5	0.3	0.4	
22	0.4	0.2	0.2	0.2	0.3	0.3	0.3	0.5	0.5	0.6	0.5	0.7	0.8	0.7	0.8	0.8	0.7	0.6	0.6	0.6	0.5	0.4	0.2	0.2	
23	0.3	0.4	0.3	0.2	0.5	0.4	0.4	0.4	0.5	0.7	0.7	0.9	0.9	0.9	0.8	0.6	0.7	0.6	0.5	0.4	0.3	0.3	0.4	0.2	
24	0.2	0.3	0.4	0.3	0.3	0.5	0.4	0.4	0.5	0.5	0.7	0.7	0.7	0.8	0.7	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.6	
25	0.5	0.5	0.5	0.4	0.4	0.3	0.4	0.6	0.5	0.8	0.8	0.9	0.9	1.2	1.0	1.2	1.0	0.9	0.8	0.8	0.9	0.8	0.8	0.9	
26	0.8	0.8	0.6	0.5	0.6	0.6	0.5	0.6	0.8	1.0	1.1	1.1	1.2	1.3	1.1	1.1	1.0	1.1	1.1	1.0	0.8	0.7	0.6	0.6	
27	0.5	0.5	0.5	0.6	0.5	0.5	0.6	0.6	0.7	0.6	1.0	1.1	1.0	0.9	1.0	0.8	0.7	0.7	0.6	0.6	0.6	0.5	0.5	0.4	
28	0.3	0.4	0.5	0.4	0.5	0.5	0.5	0.5	0.7	0.8	0.9	0.9	1.0	1.1	1.0	0.9	0.8	0.7	0.6	0.4	0.4	0.5	0.3	0.4	
29	0.4	0.4	0.3	0.4	0.3	0.4	0.3	0.4	0.6	0.6	0.6	0.8	1.0	0.9	0.9	0.9	0.7	0.8	0.6	0.6	0.5	0.6	0.6	0.5	
30	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.7	0.8	1.1	1.1	1.1	1.2	1.2	1.0	1.0	0.9	0.8	0.5	0.4	0.4	0.4	0.4	0.4	
31	0.2	0.3	0.3	0.1	0.2	0.1	0.1	0.4	0.5	0.6	0.6	0.7	0.7	0.8	0.8	0.7	0.6	0.6	0.4	0.2	0.1	0.1	0.0	0.0	

Table 3-26. Sigma W Monthly Summary Site 2



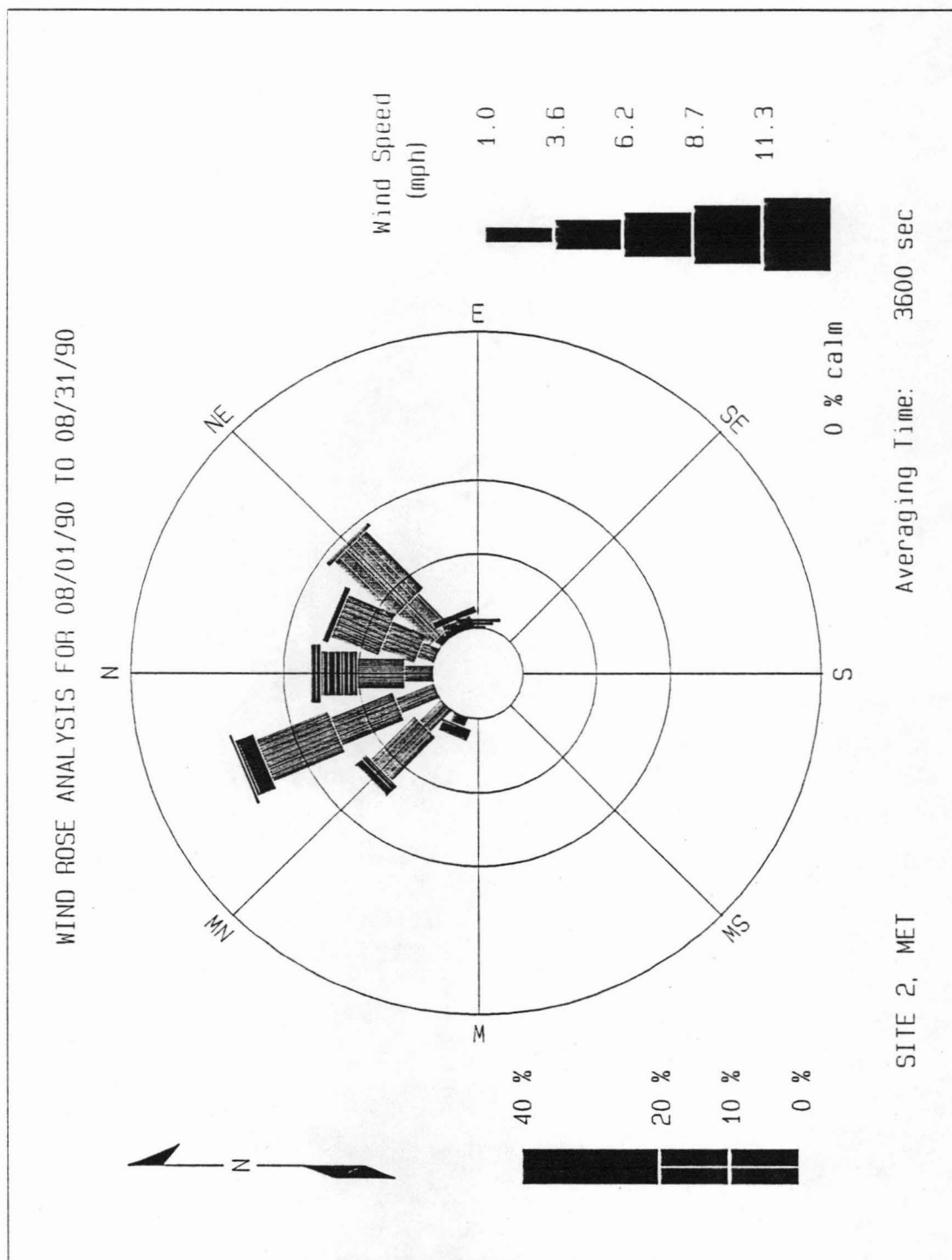


Figure 3-2. Wind Rose Analysis Site 2



WD (DEG) SUMMARY STATISTICS FOR 08/01/90 - 08/31/90

Highest Value:	360.	08/23/90	08:00:00	
Second Highest:	360.	08/27/90	12:00:00	
Lowest Value:	0.	08/11/90	01:00:00	
Arithmetic Mean:	200.		10.000 Percentile:	17.
Standard Deviation:	151.		20.000 Percentile:	30.
			30.000 Percentile:	39.
Geometric Mean:	105.		40.000 Percentile:	55.
Standard Deviation:	4.		50.000 Percentile:	308.
			60.000 Percentile:	322.
Valid Data:	744		70.000 Percentile:	333.
Invalid Data:	0		80.000 Percentile:	342.
Missing Data:	0		90.000 Percentile:	348.
Data Recovery:	100.00%		100.000 Percentile:	360.

SITE 2, MET

Averaging Time: 3600 sec

Table 3-27. Wind Direction Summary Statistics Site 2

WS (MPH) SUMMARY STATISTICS FOR 08/01/90 - 08/31/90

Highest Value:	11.3	08/25/90	23:00:00	
Second Highest:	11.3	08/26/90	08:00:00	
Lowest Value:	0.0	08/12/90	19:00:00	
Arithmetic Mean:	5.4		10.000 Percentile:	2.3
Standard Deviation:	2.3		20.000 Percentile:	3.4
			30.000 Percentile:	4.2
Geometric Mean:	4.6		40.000 Percentile:	5.0
Standard Deviation:	2.0		50.000 Percentile:	5.6
			60.000 Percentile:	6.2
Valid Data:	744		70.000 Percentile:	6.8
Invalid Data:	0		80.000 Percentile:	7.4
Missing Data:	0		90.000 Percentile:	8.2
Data Recovery:	100.00%		100.000 Percentile:	11.3

SITE 2, MET

Averaging Time: 3600 sec

Table 3-28. Wind Speed Summary Statistics Site 2

Sigél (deg) SUMMARY STATISTICS FOR 08/01/90 - 08/31/90

Highest Value:	50.1	08/23/90	03:00:00	
Second Highest:	47.9	08/24/90	01:00:00	
Lowest Value:	10.4	08/31/90	21:00:00	
Arithmetic Mean:	24.6		10.000 Percentile:	15.7
Standard Deviation:	6.5		20.000 Percentile:	17.9
			30.000 Percentile:	20.7
Geometric Mean:	23.7		40.000 Percentile:	22.7
Standard Deviation:	1.3		50.000 Percentile:	24.8
			60.000 Percentile:	26.5
Valid Data:	744		70.000 Percentile:	28.4
Invalid Data:	0		80.000 Percentile:	30.4
Missing Data:	0		90.000 Percentile:	32.5
Data Recovery:	100.00%		100.000 Percentile:	50.1

SITE 2, MET

Averaging Time: 3600 sec

Table 3-29. Sigma Theta Summary Statistics Site 2

VWS (MPH) SUMMARY STATISTICS FOR 08/01/90 - 08/31/90

Highest Value:	0.3	08/19/90	01:00:00	
Second Highest:	0.3	08/23/90	04:00:00	
Lowest Value:	-0.4	08/14/90	12:00:00	
Arithmetic Mean:	0.0		10.000 Percentile:	-0.1
Standard Deviation:	0.1		20.000 Percentile:	0.0
			30.000 Percentile:	0.0
Geometric Mean:	0.0		40.000 Percentile:	0.0
Standard Deviation:	1.0		50.000 Percentile:	0.0
			60.000 Percentile:	0.1
Valid Data:	744		70.000 Percentile:	0.1
Invalid Data:	0		80.000 Percentile:	0.1
Missing Data:	0		90.000 Percentile:	0.2
Data Recovery:	100.00%		100.000 Percentile:	0.3

SITE 2, MET

Averaging Time: 3600 sec

Table 3-30. Vertical Wind Speed Summary Statistics Site 2

SIG W (DEG) SUMMARY STATISTICS FOR 08/01/90 - 08/31/90

Highest Value:	1.284	08/26/90	13:00:00	
Second Highest:	1.244	08/30/90	13:00:00	
Lowest Value:	0.020	08/31/90	23:00:00	
Arithmetic Mean:	0.552			10.000 Percentile: 0.257
Standard Deviation:	0.240			20.000 Percentile: 0.336
				30.000 Percentile: 0.395
Geometric Mean:	0.000			40.000 Percentile: 0.454
Standard Deviation:	1.000			50.000 Percentile: 0.514
				60.000 Percentile: 0.593
Valid Data:	744			70.000 Percentile: 0.691
Invalid Data:	0			80.000 Percentile: 0.770
Missing Data:	0			90.000 Percentile: 0.889
Data Recovery:	100.00%			100.000 Percentile: 1.284

SITE 2, MET

Averaging Time: 3600 sec

Table 3-31. Sigma W Summary Statistics Site 2



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